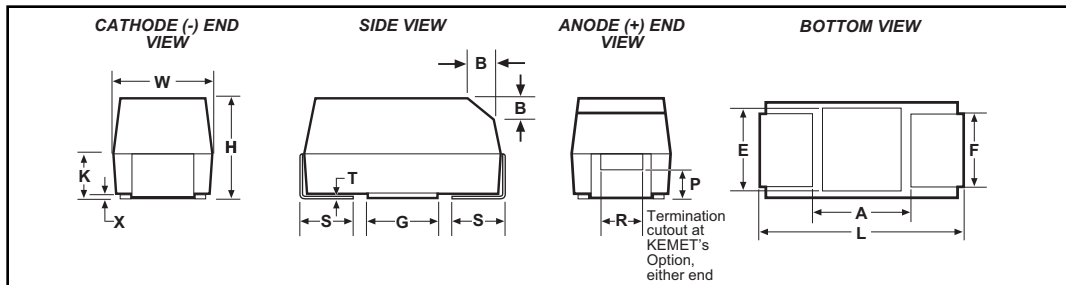


## T499 Series - KEMET High Temperature (175°C) Tantalum Chip Capacitor

### Features

- 175°C Maximum Temperature Capability
- Derating: 0.5 Vr at 175°C
- Self-healing mechanism
- Capacitance: 0.15 to 220µF
- Various termination options
- 100% Accelerated steady state aging
- 100% Surge current testing
- EIA standard case size
- Voltage 6 to 50V
- Pb-free/RoHS Compliant: Available

### Outline Drawings



### Dimensions - Millimeters (Inches)

Case Size		Component													
KEMET	EIA	L*	W*	H*	K* ± 0.20 ± (.008)	F* ± 0.1 ± (.004)	S* ± 0.3 ± (.012)	B (Ref) ± 0.15 ± (.004)	X (Ref)	P (Ref)	R (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
A	3216-18	3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.6 ± 0.2 (.063 ± .008)	0.9 (.035)	1.2 (.047)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.4 (.016)	0.4 (.016)	0.13 (.005)	1.4 (.055)	1.1 (.043)	1.3 (.051)
B	3528-21	3.5 ± 0.2 (.138 ± .008)	2.8 ± 0.2 (.110 ± .008)	1.9 ± 0.2 (.075 ± .008)	1.1 (.043)	2.2 (.087)	0.8 (.031)	0.4 (.016)	0.10 ± 0.10 (.004 ± .004)	0.5 (.020)	1.0 (.039)	0.13 (.005)	2.1 (.083)	1.8 (.071)	2.2 (.087)
C	6032-28	6.0 ± 0.3 (.236 ± .012)	3.2 ± 0.3 (.126 ± .012)	2.5 ± 0.3 (.098 ± .012)	1.4 (.055)	2.2 (.087)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.1 (.122)	2.8 (.110)	2.4 (.094)
D	7343-31	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	2.8 ± 0.3 (.110 ± .012)	1.5 (.059)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	0.9 (.035)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)
X	7343-43	7.3 ± 0.3 (.287 ± .012)	4.3 ± 0.3 (.169 ± .012)	4.0 ± 0.3 (.157 ± .012)	2.3 (.091)	2.4 (.094)	1.3 (.051)	0.5 (.020)	0.10 ± 0.10 (.004 ± .004)	1.7 (.067)	1.0 (.039)	0.13 (.005)	3.8 (.150)	3.5 (.138)	3.5 (.138)

### T499 Ordering Information

**T 499 X 227 M 010 A T E500**

**Tantalum** ————

**Series** ————  
499 – High Temp (175°C)

**Case Size** ————  
A,B,C,D,X

**Capacitance Picofarad Code** ————  
First two digits represent significant figures.  
Third digit specifies number of zeros.

**Capacitance Tolerance** ————  
M = ±20%  
K = ±10%

**ESR** ————

Note: in mOhm  
K designates "thousand"  
E1K5 = 1.5 Ohm  
E500 = 0.5 Ohm  
E15K = 15.0 Ohm

**Lead Material** ————  
T = 100% Tin (Sn) Plated  
H = Tin/Lead (SnPb 5% Pb minimum)  
G = Gold

**Failure Rate** ————  
A = Not Applicable

**Voltage** ————  
Note: 006 = 6.3

## T499 Ratings & Part Number Reference

Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR Ω @ +25°C 100 kHz Max
<b>**6 Volt Rating at +85°C (3 Volt Rating at +175°C)</b>					
2.2	A	T499A225(1)006A(2)E6K5	0.5	6	6.5
3.3	A	T499A335(1)006A(2)E8K0	0.5	6	8.0
4.7	A	T499A475(1)006A(2)E6K0	0.5	6	6.0
6.8	A	T499A685(1)006A(2)E6K0	0.5	6	6.0
6.8	B	T499B685(1)006A(2)E3K5	0.5	6	3.5
10.0	B	T499B106(1)006A(2)E3K5	0.6	6	3.5
15.0	B	T499B156(1)006A(2)E3K5	0.9	6	3.5
15.0	C	T499C156(1)006A(2)E1K8	0.9	6	1.8
22.0	B	T499B226(1)006A(2)E3K5	1.4	6	3.5
22.0	C	T499C226(1)006A(2)E1K8	1.4	6	1.8
33.0	B	T499B336(1)006A(2)E3K0	2.1	6	3.0
33.0	C	T499C336(1)006A(2)E1K8	2.0	6	1.8
47.0	C	T499C476(1)006A(2)E1K8	3.0	6	1.8
47.0	D	T499D476(1)006A(2)E800	2.9	6	0.8
68.0	C	T499C686(1)006A(2)E1K2	4.1	6	1.2
68.0	D	T499D686(1)006A(2)E800	4.1	6	0.8
100.0	D	T499D107(1)006A(2)E800	6.3	8	0.8
150.0	D	T499D157(1)006A(2)E700	9.0	8	0.7
<b>10 Volt Rating at +85°C (5 Volt Rating at +175°C)</b>					
1.5	A	T499A155(1)010A(2)E8K0	0.5	6	8.0
2.2	A	T499A225(1)010A(2)E8K0	0.5	6	8.0
3.3	A	T499A335(1)010A(2)E6K0	0.5	6	6.0
4.7	A	T499A475(1)010A(2)E6K0	0.5	6	6.0
4.7	B	T499B475(1)010A(2)E3K5	0.5	6	3.5
6.8	A	T499A685(1)010A(2)E6K0	0.7	6	6.0
6.8	B	T499B685(1)010A(2)E3K5	0.7	6	3.5
10.0	B	T499B106(1)010A(2)E3K5	1.0	6	3.5
10.0	C	T499C106(1)010A(2)E1K8	1.0	6	1.8
15.0	B	T499B156(1)010A(2)E3K5	1.5	6	3.5
15.0	C	T499C156(1)010A(2)E1K8	1.5	6	1.8
22.0	B	T499B226(1)010A(2)E3K0	2.2	6	3.0
22.0	C	T499C226(1)010A(2)E1K8	2.2	6	1.8
33.0	C	T499C336(1)010A(2)E1K8	3.3	6	1.8
33.0	D	T499D336(1)010A(2)E1K6	3.3	6	1.6
47.0	D	T499D476(1)010A(2)E800	4.7	6	0.8
68.0	D	T499D686(1)010A(2)E800	6.8	6	0.8
100.0	D	T499D107(1)010A(2)E700	10.0	8	0.7
220.0	X	T499X227(1)010A(2)E500	22.0	8	0.5
<b>16 Volt Rating at +85°C (8 Volt Rating at +175°C)</b>					
1.0	A	T499A105(1)016A(2)E10K	0.5	4	10.0
1.5	A	T499A155(1)016A(2)E8K0	0.5	6	8.0
2.2	A	T499A225(1)016A(2)E6K0	0.5	6	6.0
3.3	A	T499A335(1)016A(2)E6K0	0.5	6	6.0
3.3	B	T499B335(1)016A(2)E3K5	0.8	6	3.5
4.7	B	T499B475(1)016A(2)E6K0	0.8	6	6.0
6.8	A	T499A685(1)016A(2)E7K0	1.1	6	7.0
6.8	B	T499B685(1)016A(2)E3K5	1.1	6	3.5
6.8	C	T499C685(1)016A(2)E1K8	1.6	6	1.8
10.0	B	T499B106(1)016A(2)E3K5	1.6	6	3.5
10.0	C	T499C106(1)016A(2)E1K8	1.6	6	1.8
15.0	C	T499C156(1)016A(2)E1K8	2.4	6	1.8
22.0	C	T499C226(1)016A(2)E1K6	3.6	6	1.6
22.0	D	T499D226(1)016A(2)E800	3.5	6	0.8
33.0	D	T499D336(1)016A(2)E800	5.3	6	0.8
47.0	D	T499D476(1)016A(2)E800	7.5	6	0.8

(1) To complete KEMET part number, insert K - ± 10% or M - ±20% capacitance tolerance.

(2) To complete KEMET part number, insert Lead Material T = 100% Tin; G = Gold; H = SnPb.

\*\* 6 volt product equivalent to 6.3 volt product.

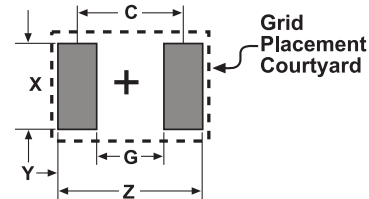
## T499 Ratings & Part Number Reference

Capacitance $\mu\text{F}$	Case Size	KEMET Part Number	DC Leakage $\mu\text{A}$ @ 25°C Max	DF % @ +25°C 120 Hz Max	ESR $\Omega$ @ +25°C 100 kHz Max
<b>20 Volt Rating at +85°C (10 Volt Rating at +175°C)</b>					
0.68	A	T499A684(1)020A(2)E12K	0.5	4	12.0
1.0	A	T499A105(1)020A(2)E10K	0.5	4	10.0
1.5	A	T499A155(1)020A(2)E8K0	0.5	6	8.0
2.2	B	T499B225(1)020A(2)E3K5	0.5	6	3.5
3.3	B	T499B335(1)020A(2)E3K5	0.5	6	3.5
4.7	B	T499B475(1)020A(2)E3K5	0.5	6	3.5
4.7	C	T499C475(1)020A(2)E2K4	0.9	6	2.4
6.8	C	T499C685(1)020A(2)E1K9	1.4	6	1.9
10.0	C	T499C106(1)020A(2)E1K8	2.0	6	1.8
15.0	C	T499C156(1)020A(2)E1K7	3.0	6	1.7
15.0	D	T499D156(1)020A(2)E1K0	3.0	6	1.0
22.0	D	T499D226(1)020A(2)E800	4.4	6	0.8
<b>25 Volt Rating at +85°C (12.5 Volt Rating at +175°C)</b>					
0.47	A	T499A474(1)025A(2)E14K	0.5	4	14.0
0.68	A	T499A684(1)025A(2)E10K	0.5	4	10.0
1.0	A	T499A105(1)025A(2)E8K0	0.5	4	8.0
1.5	B	T499B155(1)025A(2)E5K0	0.5	6	5.0
2.2	B	T499B225(1)025A(2)E4K5	0.6	6	4.5
3.3	C	T499C335(1)025A(2)E2K5	0.8	6	2.5
4.7	C	T499C475(1)025A(2)E2K4	1.2	6	2.4
6.8	C	T499C685(1)025A(2)E1K9	1.7	6	1.9
6.8	D	T499D685(1)025A(2)E1K1	1.7	6	1.1
10.0	C	T499C106(1)025A(2)E1K5	2.0	6	1.5
10.0	D	T499D106(1)025A(2)E1K0	2.5	6	1.0
15.0	D	T499D156(1)025A(2)E1K0	3.8	6	1.0
22.0	D	T499D226(1)025A(2)E800	5.5	6	0.8
33.0	D	T499D336(1)025A(2)E700	8.3	6	0.7
<b>35 Volt Rating at +85°C (17.5 Volt Rating at +175°C)</b>					
0.15	A	T499A154(1)035A(2)E19K	0.5	4	19.0
0.22	A	T499A224(1)035A(2)E18K	0.5	4	18.0
0.33	A	T499A334(1)035A(2)E15K	0.5	4	15.0
0.47	B	T499B474(1)035A(2)E8K0	0.5	4	8.0
0.68	B	T499B684(1)035A(2)E6K5	0.5	4	6.5
1.0	A	T499A105(1)035A(2)E10K	0.5	4	10.0
1.0	B	T499B105(1)035A(2)E5K0	0.5	4	5.0
1.5	C	T499C155(1)035A(2)E4K5	0.5	6	4.5
2.2	C	T499C225(1)035A(2)E3K5	0.5	6	3.5
3.3	C	T499C335(1)035A(2)E2K5	1.2	6	2.5
4.7	C	T499C475(1)035A(2)E2K5	1.3	6	2.5
4.7	D	T499D475(1)035A(2)E1K5	1.0	6	1.5
6.8	D	T499D685(1)035A(2)E1K3	2.4	6	1.3
10.0	D	T499D106(1)035A(2)E1K0	3.5	6	1.0
22.0	X	T499X226(1)035A(2)E700	7.7	6	0.7
33.0	X	T499X336(1)035A(2)E600	11.6	6	0.6
<b>50 Volt Rating at +85°C (25 Volt Rating at +175°C)</b>					
3.3	D	T499D335(1)050A(2)E2K0	1.7	6	2.0
10.0	D	T499D106(1)050A(2)E1K0	5.0	6	1.0

- (1) To complete KEMET part number, insert K -  $\pm 10\%$  or M -  $\pm 20\%$  capacitance tolerance.  
 (2) To complete KEMET part number, insert Lead Material T = 100% Tin; G = Gold; H = SnPb.  
 \*\* 6 volt product equivalent to 6.3 volt product.

## Land Pattern Dimensions for Reflow Solder

KEMET/ EIA Size Code	Pad Dimensions				
	Z	G	X	Y (Ref)	C (Ref)
A/3216-18	4.70	0.80	1.50	1.95	2.75
B/3528-21	5.00	1.10	2.50	1.95	3.05
C/6032-28	7.60	2.50	2.50	2.55	5.05
D/7343-31	8.90	3.80	2.70	2.55	6.35
X/7343-43	8.90	3.80	4.40	2.55	6.35



## Packaging Specifications

Case Codes		Tape & Reel Dimensions				
KEMET	EIA	Tape Width (mm)	Pitch mm $\pm 0.1$		Reel Quantity	
			Part	Sprocket	180mm (7")	330mm (13")
A	3216-18	8 $\pm 0.3$	8	4	2000	9000
B	3528-21	8 $\pm 0.3$	8	4	2000	8000
C	6032-28	12 $\pm 0.3$	8	4	500	3000
D	7343-31	12 $\pm 0.3$	8	4	500	2500
X	7343-43	12 $\pm 0.3$	8	4	500	2000

## Component Marking

